THE LEGISLATIVE ASSEMBLY OF
BRITISH COLUMBIA

GOVERNANCE AND RISK MANAGEMENT OF THE FAST FERRY PROJECT

SELECT STANDING COMMITTEE ON PUBLIC ACCOUNTS REPORT

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The Legislative Assembly of
British Columbia

Governance and Risk Management of the Fast Ferry Project

Select Standing Committee on Public Accounts Report

2000

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VICTORIA BC V8V 1X MAR 2 6 2001

Canadian Cataloguing in Publication Data

British Columbia. Legislative Assembly. Select Standing Committee on Public Accounts.

Governance and risk management of the fast ferry project

"Select Standing Committee on Public Accounts report."

Issued as the Standing Committee's 12th report of the 4th Session, 36th Parliament. Cf. Covering letter.

Submitted to Legislative Assembly of British Columbia. Cf. Covering letter.

ISBN 0-7726-4426-8

1. British Columiba Ferry Corporation - Evaluation. 2. Ferries - Design and construction - Economic aspects - British Columbia. 3. Ferries - British Columbia - Design and construction. I. Title

HE5785.B7B74 2000 386'.6'09711 C00-960382-4

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December 5, 2000

To the Honourable,
The Legislative Assembly of the
Province of British Columbia
Victoria, British Columbia

Honourable Members:

I have the honour to present herewith the *Twelfth Report* of the Select Standing Committee on Public Accounts for the Fourth Session of the Thirty-Sixth Parliament.

The *Twelfth Report* covers the work of the Committee on the matter of **Governance and Risk Management of the Fast Ferry Project.**

Respectfully submitted on behalf of the Committee.

Mr. Rick Thorpe, MLA
Chair

Mr. Dan Miller, MLA
Deputy Chair

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I - INTRODUCTION

In June 1994, the government of British Columbia announced its intention to embark on a large capital project involving the construction of three, $70 million aluminum catamaran-style high-speed ferries over a 3-year period. The project was announced as part of British Columbia Ferry Corporation's ("BC Ferries") $800 million, 10-year capital plan. The high-speed ferries were expected to provide service on Route 2, the Horseshoe Bay to Departure Bay route, and address problems identified by the government in its Mid-Island Transportation Strategy review, started in 1992 and reported in January 1994 (traffic congestion at Departure Bay, and the need to divert commercial vehicles away from Horseshoe Bay). The project was expected to create hundreds of new jobs in the province's shipyards, and to create a new market for British Columbia-built high-speed ferries that would revitalize the province's shipbuilding industry.

In 1995, Treasury Board approved a budget of $230 million for the fast ferry project.

To manage the project, BC Ferries created a subsidiary, Catamaran Ferries International Ltd. ("CFI"), which was incorporated in March 1996 to carry out overall project management activities and lead and direct the development of the build strategy and build schedule. CFI's first board of directors was appointed in May 1996. Construction of the first vessel, the *Explorer*, started in July of 1996. The second vessel, the *Discovery*, was operating in December of 1999. The third vessel, the *Voyager*, was completed in August of 2000.

Since the 1994 announcement of the fast ferry project, concerns have arisen regarding increasing project costs and completion schedules. Appropriateness of vessel design and vessel performance, have also been the subject of some debate.

The Auditor General's Review

From March to June 1999 the Auditor General conducted a review of the fast ferry project. Unlike previous investigations done by Hugh Gordon and John J. McMullen Associates in early 1999, the Auditor General's review focused on the provincial government's governance and risk management of the fast ferry project. In particular, the review team sought to assess:

- Whether the government, and its appointees at BC Ferries, CFI, and the Crown Corporations Secretariat ("CCS"), had exercised appropriate governance over the project
- Whether there had been an appropriate examination and management of the risks surrounding development of the project, and the design and construction of the first vessel.

The Auditor General's report was released in October of 1999, and included information based on evidence available up to June 30, 1999. The Auditor General did not review the role of cabinets prior to 1991, but rather had as its starting point a government review of mid-Vancouver Island transportation issues commencing in late 1992 and reported in January 1994.

The results of the Auditor General's review indicated that there had been significant breakdowns in both governance and risk management of the fast ferry project, in that:

- The decision to build the fast ferries was not supported by sufficient information and analysis to demonstrate that the ferries would meet either BC Ferries' needs, or the government's public policy goals in a cost-effective manner
- An unrealistic timetable led to a rushed process, opportunities for re-evaluation were not taken, and reasonable project management practices were not applied
- Lack of information was a key characteristic of governance failures during the fast ferry project, and the decision to proceed with fast ferries was more a ministerial directive than a board decision
- The fast ferries are unlikely to meet the major service expectations set when the project began, and their cost will further impair BC Ferries' financial health

His report also noted that, based on information contained in BC Ferries' latest budget (May 1999), the estimated total cost of the program had risen to $463 million (of which the costs for vessel construction were $378 million).

The Committee's Review

On November 4, 1999, the committee heard from witnesses representing the Auditor General's office, BC Ferries and CFI. Also on that date, the committee approved a motion that the committee would call witnesses on a rotating basis, as agreed to by the Chair and Deputy Chair, from prioritized lists of witnesses submitted by committee members. Prioritized lists were submitted on behalf of the government and official opposition members of the committee, as well as the independent member of the committee. Subsequently, arrangements were initiated to invite the following individuals to appear before the committee: Frank Rhodes, Tom Ward, Sam Bawlf, Bob Williams, Michael Goldberg, Curtis Eaton and Jack Munro. It was also agreed that the committee would receive testimony from the Secretary to Treasury Board and representatives of the CCS, as well as further testimony from the President and Chief Executive Officer of BC Ferries.

On January 12, 2000, Frank Rhodes, Tom Ward, the Secretary to Treasury Board, the President and Chief Executive Officer of BC Ferries and representatives of the Crown Corporations Secretariat appeared before the committee to give evidence regarding the fast ferry project. However, on January 25, 2000 debate on the fast ferry project was curtailed by the approval of a motion that had the effect of ending the appearance of witnesses before the committee on this issue. As a result, the following witnesses previously agreed to by committee members did not appear before the committee: Sam Bawlf, Bob Williams, Michael Goldberg, Curtis Eaton and Jack Munro. In debate around the motion, the Auditor General was asked whether the information received from witnesses that had appeared before the committee would change the content or findings of his report on the fast ferry project. The Auditor General indicated that, in his view, no additional information had come to light which would cause him to change his report.

In the course of its deliberations, the committee received numerous pieces of correspondence from BC Ferries, the CCS, the Auditor General, and the Secretary to Treasury Board. The committee also received a written submission from Sam Bawlf, former adviser to BC Ferries and the CCS. Lists of all witnesses testifying before the committee, and all documents submitted to the committee, are included in the appendices to the report.

II - BACKGROUND TO THE FAST FERRY PROGRAM

During the committee's deliberations, evidence was received regarding events leading up to the decision to proceed with fast ferry construction in British Columbia. In particular, committee members heard testimony relating to the genesis of the fast ferry concept in British Columbia, the Mid-Island Transportation Strategy, and BC Ferries' 10-year capital plan.

Genesis of the Fast Ferry Concept in British Columbia

Questions were raised by the committee regarding the genesis of the fast ferry concept in British Columbia, and whether international proponents of the technology received payments for the technology prior to the decision to proceed with the project.

Representatives of the Auditor General's office noted that their review found no payments made for the fast ferry technology until approval-in-principle of the project was given in mid-1994. However, they did point out that pursuant to a contract with CCS, Sam Bawlf, a marine project consultant and a former Chair and Chief Executive Officer of BC Ferries, was paid for advice provided prior to the decision to proceed with the project.

Representatives of the CCS and the Auditor General's office noted that serious consideration of using fast ferries in British Columbia had its genesis in the Mid-Island Transportation Strategy.

Representatives of the Auditor General's office also noted that while the first formal presentation regarding fast ferries appears to have occurred in February 1994, when BC Ferries made a presentation to the minister responsible for BC Ferries regarding the corporation's draft 10-year plan, there is evidence that BC Ferries had been monitoring fast ferry technology at least back to 1990, as that appeared to be the direction the industry was going at the time. That analysis included an examination of how the vessels' capital and operating costs compared to conventional ferries.

The committee received an extensive written submission from Sam Bawlf. Mr. Bawlf advised that he was retained by the CCS in the early 1990's to participate in development of the Mid-Island Transportation Study, and as an adviser to BC Ferries when the fast ferry project was in its initial stages. Mr. Bawlf's involvement in the project ended in April 1996, prior to the commencement of construction of the first vessel. Mr. Bawlf argued that, contrary to the Auditor General's conclusion, the decision to build the fast ferries in British Columbia was supported by sufficient information and analysis to demonstrate that they would meet the needs of BC Ferries, and public policy objectives.

Mr. Bawlf's submission noted that the concept of fast ferries was first examined by BC Ferries in 1978 when it was developing its first 10-year capital plan. He also submitted that the concept was examined again in 1990, when he presented a document to the Minister of Finance entitled "Toward the 21st Century: A Blueprint for Revitalization of B.C.'s Shipbuilding Industry and B.C. Ferries' Service to Vancouver Island". However, he asserted that at that time it was clear that BC Ferries' management was not in favour of the concept. He advised that in 1991, he approached the government again, and put forward a proposal based on a design from INCAT of Tasmania. That

design was a 93-metre, 200-vehicle catamaran, with a projected capital cost of $60 million.

Although all committee members had agreed that Sam Bawlf was to appear before the committee, on the day of Mr. Bawlf's scheduled appearance, a government member of the committee moved a motion to end the committee's consideration of the Auditor General's report on the fast ferry project, accept the recommendations in that report, and recommend the same to the Legislative Assembly. The motion was approved on division. As a result, Mr. Bawlf did not appear before the committee, although he did make a written submission.

The committee also heard testimony from Frank Rhodes, President and Chief Executive Officer of BC Ferries in the early and mid-1990's, regarding the genesis of the fast ferry concept in British Columbia. Mr. Rhodes noted that when he left BC Ferries briefly in mid-1993 to work as Deputy Minister of Employment and Investment, he was aware of the interest the minister responsible for BC Ferries had in fast ferries. He emphasized that the minister's interest was based on representations made to the minister about the appropriateness of the technology for BC Ferries' needs. Mr. Rhodes further testified that he, and the BC Ferries management and board, felt that fast ferries were only one of a set of acceptable options, but their role was to act according to the preferences of shareholders. However, he noted he was not an advocate of the fast ferry technology. The committee did not have the opportunity to hear further testimony from Mr. Rhodes, due to approval of a motion to end the committee's consideration of the Auditor General's review of the fast ferry program, accept the recommendations in that report, and recommend the same to the Legislative Assembly.

The Mid-Island Transportation Strategy

In late 1992, the government commenced a review of transportation issues relating to mid-Vancouver Island. The review was conducted by the CCS, in conjunction with BC Ferries and the Ministry of Transportation and Highways. Among other things, the review was initiated to examine options for relieving terminal congestion at Horseshoe Bay, and diverting commercial vehicles and dangerous cargo away from the Departure Bay terminal. During the course of the review, fast ferry technologies from around the world were examined, and some consideration was given to leasing a fast ferry for a trial period. The findings of the review were released in January 1994, in a document entitled the *Mid-Island Transportation Strategy* ("MITS").

Representatives of the Auditor General's office emphasized that while MITS identified fast ferries as an option for the Horseshoe Bay to Departure Bay route, it did not make any recommendation on the topic, but rather indicated that further analysis of the technology would be necessary.

Sam Bawlf did not appear before the committee as a witness. However, in his written submission to the committee, Sam Bawlf argued that the MITS process was the most comprehensive and technically-detailed planning study of BC Ferries' major routes ever undertaken. Mr. Bawlf explained that during development of the MITS, Sandwell Engineering was commissioned to explore cost and performance parameters for fast ferries. This analysis was done on the basis of the 93-metre, 200-vehicle, INCAT vessel design he proposed in 1991. He submitted that the Sandwell analysis showed that replacing conventional ferries with fast ferries on Route 2 would help with traffic congestion and result in capital savings of more than $70 million. However, he stated

that the review also concluded that to approximate the daily capacity of conventional vessels, the fast ferry design would have to be extended to 103 metres, with a 230-vehicle capacity. INCAT confirmed that this would not be a problem, and figures were adjusted accordingly. The cost of the 103-metre vessel was projected to be $70 million. Mr. Bawlf submitted that, despite this extensive analysis showing fast ferries could be a cost-effective option for the province, BC Ferries again opposed the concept, and decided to build two more superferries instead.

BC Ferries' 10-Year Capital Plan

In 1994, following release of the MITS, a BC Ferries 10-year capital plan was being developed in response to concerns about an aging fleet and growing demand. Fast ferry technology was also being examined as part of that process.

The Auditor General's report stated that the initial 10-year capital plan drafted by BC Ferries identified fast ferries only as an option requiring further analysis, and gave consideration to a lease arrangement to try the technology out. However, the report further stated that development of this plan was taken out of the hands of BC Ferries and passed over to the CCS. The report noted that when this occurred, the plan changed significantly, and instead of leasing a fast ferry for trials, the plan called for the immediate construction of three fast ferries.

The report further stated that a submission to cabinet and Treasury Board regarding the plan was also prepared by CCS and its consultant at the direction of the minister responsible for BC Ferries, and presented by the minister and a CCS staff member to the BC Ferries board for approval in April of 1994. The Auditor General has also indicated that at that time, the minister responsible for BC Ferries made it clear a decision was required in a short period of time. The BC Ferries board did endorse the submission but, in the Auditor General's view, with insufficient scrutiny of it. The review concluded that the fast ferry option was pushed upon the BC Ferries board, and that the decision to proceed with the fast ferry project was more of a ministerial directive than a BC Ferries board decision, and was made without adequate analysis of whether fast ferries were the best option, could be built cost-effectively in British Columbia, and could achieve the stated policy objectives.

In June of 1994, BC Ferries' 10-year capital plan, including the construction of three aluminum high-speed ferries, was approved by cabinet and Treasury Board. Funding for the project was approved in 1995, at $230 million. The Auditor General has emphasized that the capital plan was approved in principle only, on the condition that BC Ferries submit specific vessel replacement/acquisition proposals to Treasury Board at a later date. The Auditor General's review indicated that while more information was provided, it was not, in the Auditor General's view, a reasonable level of information supported by reasonable levels of analysis.

The committee was interested in whether the Auditor General's review included an independent analysis of what the costs of leasing a fast ferry would have been (including the costs of berthing facilities, as existing fast ferries at the time would not fit with BC Ferries' docking facilities). Representatives of the Auditor General's office advised that their review did not include an independent analysis of leasing costs, but that BC Ferries' own estimates of leasing costs were examined by the review team. BC Ferries' review had estimated that total costs of leasing and dock adaptation would be below $3 million. This was disputed in the written submission of Sam Bawlf. Mr. Bawlf, although

not appearing before the committee in person, contended that there were a number of problems which rendered the leasing option impractical. He submitted that at the time demand for fast ferries exceeded supply, and that the cost of setting up a 5-month trial including charter, delivery and redelivery fees, customs, Coast Guard certification, temporary dock construction, and crew training, would have been at least $6 million.

During the committee's deliberations, some disagreement was apparent between the Auditor General's office and the CCS regarding the extent to which there was collaboration between CCS and BC Ferries in development of BC Ferries' 10-year capital plan and cabinet submission, and who led the presentation to the BC Ferries board. CCS representatives submitted that development of the 10-year capital plan and submission to cabinet and Treasury Board was a collaborative process between CCS and BC Ferries. They explained that since the establishment of CCS in December 1991, it has often been requested to work with Crown corporations in the development and review of strategic plans and projects, including the coordination of document development relating to the MITS. Committee members were told that the CCS has interviewed the staff involved, and found evidence that the plan and submission were authored jointly by staff from CCS and BC Ferries, and were presented to the BC Ferries board in April 1994 by a CCS staff member, although BC Ferries staff involved were also present at the board meeting. CCS staff have also advised that no direction came directly from the minister responsible for BC Ferries, but rather from the Deputy Minister for Employment and Investment (Frank Rhodes).

Finally, CCS representatives noted their disagreement with the Auditor General's statement that the submission was prepared without adequate risk analysis. They informed committee members that the submission was supported by BC Ferries analysis and data, as well as a business evaluation done by Sandwell Engineering, with the understanding that further analysis was to follow.

The committee also discussed the involvement of the government's transportation consultant, Sam Bawlf, in the preparation of the submission and its presentation to the BC Ferries board. The Auditor General's investigations did not reveal any instance in which Mr. Bawlf made such presentations, nor did Mr. Bawlf's written submission indicate that he did. However, Mr. Bawlf 's written submission did state that he was involved in the development of the information that would be presented to the BC Ferries board and to cabinet. As consultant to BC Ferries, Mr. Bawlf retained Sandwell Engineering to develop criteria by which to examine and compare various fast ferry technologies, and Tom Ward (former General Manager of Vancouver Shipyards) was retained to evaluate the capability of B.C.'s shipyards to produce aluminum ferries, and to provide an estimate of the capital cost. Mr. Bawlf emphasized that the fast ferry cost and performance parameters incorporated in the 10-year plan were adopted only after consultations with internationally-respected naval architects and marine engineers.

III - MANAGEMENT OF THE FAST FERRY PROJECT

The Office of the Auditor General recommends that the Province require that proven project management practices be used on all significant capital projects.

The Auditor General's report notes that, in embarking on the fast ferry project, the government could have taken advantage of capital project management techniques identified in reports such as the 1987 *Report of the Commissioner Inquiry into the Coquihalla and Related Highway Projects*, and through work done by the Treasury Board of Canada and the Project Management Institute. Instead, however, the Auditor General concluded that the project's scope, schedule and budget were not firmly established prior to commencement of vessel construction, the project was rushed due to an unrealistic timetable, and reasonable project management practices were not followed throughout the project.

Risk Analysis Prior to Construction

Representatives of the Auditor General's office submitted to committee members that there was never an adequate examination of the risks inherent in the fast ferry project before the decision to proceed with the project was made, or prior to the commencement of construction of the vessels. In particular, the Auditor General advised that risks associated with cost, appropriateness of the technology for the route, power requirements, construction schedule, vessel design changes, labour productivity of British Columbia shipyards, and export potential for the vessels received insufficient consideration.

Cost

When the project was introduced to the public, it was announced that each ship would cost $70 million to construct. In the Auditor General's view, these cost estimates were prepared in a very short time, with little analysis, and ignored the original estimate of $80 million prepared by BC Ferries. Moreover, the Auditor General found that the cost estimates did not reflect the fact that the project involved construction of technology new to the B.C. shipbuilding industry, nor the training costs that would be required to complete the project. Furthermore, he noted that the cost estimates that were announced were based on an INCAT design for a generic 78-metre vessel, which was substantially different from the design proposed for Route 2. The review determined that because cost estimates were not developed with sufficient analysis, assessment of the economic advantage of fast ferries over other alternatives was affected. Representatives of the Auditor General's office also submitted that, while normally with the building of new technology a contingency fund would be set up to provide for the possibility of cost overruns, in the case of the fast ferry project this was not done.

However, a representative of the CCS submitted to the committee that the consultants retained by BC Ferries to develop the cost estimates (Tom Ward and Sandwell Engineering) had indicated that $70 million per vessel was a conservative estimate, in that a similar vessel was being built in Australia for $52 million. Mr. Ward advised the committee that the cost estimates received from design proponents for various types of vessels ranged from $56 million to $90 million per vessel. However, the Auditor General advised committee members that these cost estimates were not estimates of what it would cost to build, in British Columbia, the type of vessel BC Ferries wanted. Rather,

he stated that they were estimates of the costs to build, in the proponents' countries of origin, ships that had already been built in the past. The committee also heard from representatives of the CCS that a cost-benefit analysis indicated that even without charging higher fares for the fast ferry, the benefit of the new vessels was still positive up to a cost of approximately $72 to $74 million.

Tom Ward advised the committee that in March 1994, during development of BC Ferries' 10-year capital plan, he was approached by Sam Bawlf, on behalf of the CCS and the minister responsible for BC Ferries. Mr. Bawlf requested his assistance in developing cost estimates for fast ferries. Mr. Ward submitted that it was made clear to him the cost estimates were required in short order, and so the information was finalized at the beginning of April, 1994.

In contrast to information contained in the Auditor General's report, Sam Bawlf's written submission to the committee noted that when Tom Ward was asked to provide cost estimates for the fast ferry, he was given plans and specifications for both 93-metre and 103-metre INCAT vessels. He concluded that the smaller vessel would cost approximately $60 million to build, while the larger vessel would cost about $66 million. This was rounded up to $70 million. In his written submission, it was Mr. Bawlf's recollection that Mr. Ward estimated an additional $14 million for the cost of erecting and equipping production facilities, and for workforce training.

The Appropriateness of the Technology for the Horseshoe Bay to Departure Bay route

The Auditor General's report states that meaningful time savings are realized by fast ferries only if the route on which they operate is long enough. However, the Horseshoe Bay to Departure Bay route for which the vessels have been constructed is known to be very short for a fast ferry (in fact, the second-shortest in the world as of 1995).

Sam Bawlf, in his written submission to the committee, took issue with the Auditor General's statement that fast ferries would be more suitable for longer routes. Rather, it was the view of Mr. Bawlf that using the vessels on longer routes would serve to increase the costs per capacity delivered, and to exacerbate the problem of cost recovery. He emphasized that for the vessels to be cost-effective as they have been built, they must be able to make 12 crossings per day, and that because their speed is lower than expected, this means finding a shorter route.

Frank Rhodes also submitted to the committee that an April 1996 Transport Canada paper stated the route was appropriate for high-speed vessels. However, the committee also received testimony from the Auditor General on this point. He argued that Mr. Rhodes overstated the conclusions of that study. The Auditor General submitted that the study examined the Horseshoe Bay to Departure Bay route as a validity check only, as the route was already being pursued by BC Ferries for use of high-speed ferry technology. The Auditor General further noted that the study used cost and revenue estimates provided by BC Ferries itself, and that it concluded that even with a 15% premium fare, the route would not break even if fast ferries were used.

High-speed Ferries' Power Requirements

The Auditor General's report notes that, despite the fact that the ferries required power levels at or beyond the maximum available from diesel engines at the time, a decision was made not to use higher-power gas turbine engines.

Construction Schedule

Committee members heard that construction of three fast ferries in three years, as announced in June 1994, was a schedule ambitious even for experienced fast ferry builders. The Auditor General's report also stated that a detailed implementation plan was never developed, and that tight schedules contributed to rushed, out-of-sequence work, and resulted in inefficiency, errors and the necessity of re-doing some of the work.

Frank Rhodes submitted to the committee that when the initial completion schedule was set, CCS believed it was achievable.

Vessel design changes

The committee was advised that after the fast ferry project was announced, a decision was made to construct a vessel of a larger design that could fit existing BC Ferries' berths. The effect of these changes was to increase the cost, weight and design complexity of the ships, and lower their speed. However, according to the Auditor General, when the design of the vessel changed, the cost estimates were not revised, and vessel performance was not re-assessed.

In his written submission to the committee, Sam Bawlf argued that if the fast ferries actually built had remained within the design parameters initially set during the MITS and the 10-year capital plan, there is no doubt in his mind that the vessels would be the most cost-effective solution to British Columbia's ferry service needs.

Productivity of British Columbia shipyards

The review found some risk existed prior to the commencement of fast ferry construction that shipyards in British Columbia would not be able to build the fast ferries cost-effectively, particularly in light of the fact that they were a new technology for industry in the province. However, according to the Auditor General, this was not taken into consideration when establishing cost estimates and developing a construction schedule.

The committee received testimony from Tom Ward on this matter. He stated that BC Ferries staff conducted an analysis of high-speed ferry construction labour productivity rates, based upon cost reports from Australia and productivity information from international designers. It was based upon this information that Tom Ward developed his own cost estimates for the vessels to be built in British Columbia.

Export potential

Finally, representatives of the Auditor General's office submitted that no analysis was done regarding whether British Columbia could be competitive in world markets for fast ferries.

In his written submission to the committee, Sam Bawlf disagreed with the Auditor General's conclusion on this matter. He noted that there was evidence from INCAT of Tasmania that vessels built with only a very small subsidy (2.5%) could be competitive on world markets if a standard design, fabricated by serial production, is used that can be applied to routes throughout the world. He also argued that extensive evaluations had been done prior to the announcement of the project of the potential for B.C. to compete globally in aluminum shipbuilding.

Finally, Frank Rhodes supplied the committee with particulars to support his contention that the steps taken by BC Ferries in the two years between announcement of the fast ferry project and the commencement of construction addressed project risks. He emphasized that during that period, the following actions were taken:

- Tom Ward engaged in discussions with B.C. shipyards to try to secure private sector investment and leadership, but was unsuccessful;
- Alternative build strategies and facilities were developed;
- Individuals from the private sector, with extensive experience in shipbuilding and project management, were recruited;
- Det Norske Veritas, the world's largest classification society for high-speed ferries, was retained to manage quality assurance, control and standards;
- Water jets and engines were purchased on a fixed-price contract basis;
- Labour upgrading programs were introduced, including aluminum welder training;
- Tank testing was done in Norway;
- The Council of B.C. Marine Industries, composed of shipyards and unions, petitioned Industry Canada to provide assistance for labour upgrading and technology change in shipyards. The committee also heard from Mr. Ward in this regard, who noted that Industry Canada had a "Shipbuilding Industry Assistance Program", aimed at rationalizing the shipbuilding industry in each region of the country by downsizing a number of yards, and upgrading the remaining yards, and that there was $29 million earmarked for the shipbuilding industry on the west coast. However, federal assistance was not forthcoming.

Project Management During Vessel Construction

As discussed in the introduction to this report, once the decision had been made to proceed with the fast ferry project, BC Ferries incorporated a subsidiary, CFI, to manage the project. However, the Auditor General's investigations found that by the time CFI took over project management, the BC Ferries project team had already:

- Identified the main construction contractors
- Determined the building strategy
- Contracted for the delivery of some of the vessel and assembly building materials
- Determined the basic design features of the ferries
- Started some engineering work, and
- Organized a training program to teach shipyard workers how to work with aluminum.

In his written submission to the committee, Sam Bawlf argued that BC Ferries' management was not equipped to organize and manage construction of a new technology such as aluminum fast ferries, and that this, rather than a lack of analysis, contributed to the problems experienced in the program.

Representatives of the Auditor General's office also submitted that project management was lacking in periodic project cost estimates based on most probable costs, including all associated works required to make the project complete, and rigourous project

control procedures documenting formally-approved scope, schedule and budget parameters.

Budget and Cost Management

When the project was announced in 1994, construction costs for the three fast ferries were estimated at $210 million. In 1995, Treasury Board approved a budget of $230 million for the fast ferry project. At the end of April, 1997 Tom Ward (BC Ferries' Vice-President of Engineering and Construction at the time) prepared a "Fast Ferry Program Budget Review". Following its approval by the BC Ferries board of directors, a revised budget was prepared and presented to Treasury Board, and project funding was increased to $262 million. However, it was the evidence of representatives of the Auditor General's office that a detailed budget, breaking down work to be done in component parts, was never developed for the fast ferry project. They also testified that project costs were never based on solid analysis, and that there were cost management problems.

The total project cost was estimated, at the time of the Auditor General's review, to be $463 million. Information submitted to the committee in January 2000 by the President and Chief Executive Officer of BC Ferries indicated that at that date, forecast construction costs for the fast ferries totalled $453.7 million, not including terminal modification costs of $8.5 million, which were included in the Auditor General's calculations. He noted that final project costs would not be known until at least November 2000, after the completion of the third vessel and the completion of all invoicing and account reconciliation. A monthly project status report by BC Ferries to Treasury Board secretariat, dated January 2000, and provided to the committee, indicates that as of November 30, 1999, the final cost of the second vessel was expected to be close to the budgeted amount, and that the cost of the last vessel was expected to come in below budget.

Frank Rhodes submitted to committee members that, from the commencement of the project, CFI adopted a "Cost/Schedule Control System" ("CS2"), which monitored budget, application of budget and scope, required verification for scope changes and calendarized all expenditures by vessel module. However, the committee was advised by representatives of the Auditor General's office that the CS2 system was never fully-implemented, and was sometimes bypassed when change orders were made. Tom Ward also indicated to committee members that while the CS2 system was in place during the course of the fast ferry project, financial information was not being generated by the system in a timely manner, and this interfered with project management. Mr. Ward noted that the system was relatively new to the west coast shipbuilding industry, although CFI's general manager was familiar with it.

It was Mr. Rhodes' further evidence that in November 1996, when the CFI board of directors reviewed project budget information, CFI's General Manager at the time expressed a 95% confidence level in the project budget, and CFI's Chief Financial Officer stated that his confidence level was 90 to 95%. He also submitted that in mid-1997, when the revised budget was prepared, presented to and approved by the BC Ferries and CFI boards, and presented to Treasury Board, he and others had every reason to believe the project budget was complete and correct.

In response to Mr. Rhodes' testimony, the Auditor General submitted that his review of the minutes from the November 1996 CFI board meeting discussed by Mr. Rhodes indicates that Board members were not satisfied with the project budget information

provided by Mr. Ward, and repeatedly called for a project budget that was "properly prepared and defined". They further noted that at a March 13, 1997 CFI board meeting, the chair requested that Mr. Ward provide a final budget at the board's next meeting in April.

In his evidence to the committee, Tom Ward stated that he had concerns about cost escalation in the program as early as the fall of 1997, and expressed them to the CFI and BC Ferries board chairs in September 1997. Mr. Ward also indicated to committee members that he, too, was surprised by the cost escalation that occurred throughout construction of the first vessel, although he was not shocked by it, as he expected costs to go down in construction of the second and third vessels. He noted that in April 1998, CFI's General Manager gave him a handwritten overview stating the first ship would cost $86 million, and the second would cost $76 to $78 million to construct. However, according to Mr. Ward, in June/July of 1998, CFI's General Manager then gave him further information indicating costs would be even higher than that. Mr. Ward did not provide the information to the board at that time, instead choosing to launch his own investigation. He discovered that variances between projected and actual labour productivity rates, and electrical and piping system costs, were the most likely reasons for the cost escalation. He advised the committee that his review indicated that labour costs accounted for 51% of construction costs for the first vessel, 70% of which was for alloy fabrication. He advised that final labour costs for the first vessel were estimated to be 300,000 hours in excess of the original projections, accounting for $16 million in additional labour costs. Mr. Ward presented his findings to the CFI board on January 15, 1999, and then immediately resigned as President and Chief Executive Officer of BC Ferries, and President of CFI.

Some members of the committee were concerned that high labour costs were not picked up earlier during the course of the project, perhaps by CFI's payroll or accounting departments. Committee members heard from Mr. Ward that there was a considerable time lag in CFI receiving invoices from shipyards performing the work, and so by the time he was aware of the labour cost overruns for the first vessel, it was already completed.

Gavin Cooper, formerly Chief Financial Officer for CFI, and now its President and General Manager, also testified before the committee on the issue of fast ferry project cost escalation. Mr. Cooper stated that it was apparent right from the beginning that the original vessel construction budget was unreliable, but it was the only thing the corporation had to work with until the revised budget was approved in August 1997.

The committee was made aware that since the review was conducted, BC Ferries has changed the way it budgets for vessel construction projects. Bob Lingwood, the current President and Chief Executive Officer of BC Ferries, made the committee aware that, in May 1999, the corporation introduced detailed, zero-based budgeting for construction of the second and third vessels. In addition, the Secretary to Treasury Board informed the committee that the Treasury Board secretariat is implementing new reporting requirements that government agencies to use "earned value management" techniques, that relate job progress (costs and scheduling) to a pre-determined budget.

Schedules

When the fast ferry project was announced in 1994, the first vessel was to be completed within 16 months of the announcement date, with all three vessels completed within a

36-month period. The Auditor General's report stated that this schedule did not take into account the possibility that British Columbia's shipbuilding industry did not have the management skills needed to engage in such a large project, and was not ready to assume the risks associated with the project. As well, he noted that the timetable did not take into account that there may be start-up problems, or labour unrest during the course of construction.

The committee heard that because the timetable for construction of the fast ferries was an unrealistic one, construction was rushed. For example, representatives of the Auditor General's office noted that a design was chosen before the operational needs for the ships were defined, and that the selection process did not explore design options that could have led to a more cost-effective project. Moreover, committee members were advised that construction of the first vessel began prematurely, before detailed engineering drawings were complete and contracts and budgets in place, which slowed work and increased costs. The first vessel had to be launched before it was really ready, in order to make room in the assembly building for the second ship.

Tom Ward submitted to the committee that while the stated delivery dates for the vessels were too ambitious, in his view the project was not rushed. However, he advised the committee that he did express concerns to the CFI and BC Ferries board chairs about the launch schedule for the first vessel in September 1997. As a result, a consultant was retained in November 1997 to look at the problem. That individual took over as General Manager of CFI in January 1998.

Mr. Ward further submitted that he was instructed by Glen Clark, the minister responsible for BC Ferries, to push the capital program forward, and make changes in the corporation as necessary to turn it into a more commercially-minded, forward-thinking, customer-oriented organization.

Finally, Mr. Ward disagreed with the Auditor General's conclusion that fabrication of the first vessel began before sufficient engineering drawings were done. However, he did acknowledge that detailed drawings for all modules of the vessel had not been completed when the work commenced, and that the quality of the detailed drawings was not as good as it should have been, which caused additional project familiarization costs and was generally disruptive to the work flow. He attributed these difficulties to restrictions that were initially placed on CFI's engineering department in terms of hiring staff, and an inadequate understanding of the full scope of the engineering effort required.

The committee heard from Bob Lingwood, the current President and Chief Executive Officer of BC Ferries, that for construction of the second and third fast ferries, detailed schedules were developed.

Scope changes

While standard practice on large capital projects is to identify responsibility for reviewing and approving scope changes, and to have approvals formally documented, a formal scope management system was never fully implemented for the fast ferry project. Another finding of the review was that when changes to the project occurred, the project timetable and budget were not adjusted accordingly, and BC Ferries and CFI had to pay for re-work caused by the changes. For example, the committee was informed that changes were made to add structural items not originally contemplated, and the design was modified to increase carrying capacity for vehicles and passengers, and to fit existing berths. This affected vessel weight, speed and operational costs.

Similarly, in his written submission to the committee, Sam Bawlf argued that the MITS analysis established certain cost and performance parameters which had to be maintained if fast ferries were to remain a cost-effective option for B.C. These were based on a design of 93 to 103 metres, and a capacity of 200 to 230 vehicles. Mr. Bawlf emphasized that the importance of these parameters was thoroughly explained to Tom Ward when he was preparing the cost estimates. He noted that BC Ferries proceeded instead to choose a completely new design which would fit existing docks. This added encumbrances to the vessel, increased power requirements, and affected the vessels' ability to operate in rougher waters and their export potential.

Representatives of CCS also acknowledged that changes made after the initial decision to proceed with the project had a critical impact on both the cost and the schedule of the fast ferry project, and that not systematically considering the effects of those changes was a fundamental failing in project management. However, they emphasized that information provided by BC Ferries to CCS did not indicate any cause for concern.

Former President and Chief Executive Officer of BC Ferries, Frank Rhodes, expressed his frustration that the Auditor General's report did not acknowledge the fact that, when the initial request for expression of interest regarding vessel design was issued, it called for a design based on the use of existing BC Ferries terminals. He also noted that the Auditor General did not provide a quantification of the impact of scope changes in his report.

Tom Ward submitted to the committee that changes to the scope of work and resulting costs were monitored by the CS2 system. He further submitted that some of those changes were due to changes in classification codes and standards from the International Maritime Organization. Those changes related to hull strength, structural fire protection, fire suppression, life saving, and vessel stability. CFI paid for extra work to accommodate these classification changes.

However, in response to Mr. Ward's submission regarding scope changes, the Auditor General again emphasized to committee members that although the CS2 system was in place, it was not fully implemented and in fact was sometimes bypassed when change orders were made.

Committee members heard from Bob Lingwood, the current President and Chief Executive Officer of BC Ferries, that since the review, the corporation has adopted strict procedures to control change orders, and these procedures were used during construction of the second and third fast ferries.

Contract management

It was the testimony of representatives of the Auditor General's office that further evidence of inadequate project management practices during construction of the first fast ferry was the way labour contracts were managed. They advised that contracts were not in place when construction on the first vessel commenced. Instead, Memoranda of Understanding incorporating previously-agreed-to labour and overhead rates were signed with most shipyards in December 1996, almost six months after work on the first vessel started. A similar agreement with the largest shipyard, Vancouver Shipyards, was not signed until May 1998, shortly before the first vessel was launched.

Representatives of the Auditor General's office also advised the committee that, when agreements were signed, they left a great deal of the risk in the hands of CFI. In particular, because aluminum fast ferry construction was new to British Columbia, shipyards would not agree to fixed-price contracts for vessel fabrication. As a result, CFI was forced to enter cost-plus contracts, whereby shipyards were to be paid for work actually done, rather than assuming the risk of labour costs exceeding a price specified in the contract. In addition, "time and materials" contracts were entered into with contractors providing outfitting for the first vessel (piping, plumbing, electrical work, and the like). These contracts required CFI to pay for all work done and all materials used. However, the Auditor General's report notes that because detailed engineering drawings were not completed when contracts were signed, CFI was unable to accurately determine the amount of work that would be required. As a result, there were significant overruns in labour costs for the first vessel, relating primarily to aluminum fabrication and outfitting of the first vessel.

On the other hand, CFI was able to secure fixed-price contracts for vessel materials used in construction (aluminum, engines and water jets).

The committee also discussed whether there were any penalties or incentives built into the contracts with respect to labour productivity and cost overruns. Representatives of the Auditor General's office responded that some evidence was found during the course of their review that the contracts were structured to include incentives and disincentives. However, because the contracts were not executed until well into construction of the first vessel, and because there was never any agreement achieved with respect to labour productivity levels, as called for in the contract, those provisions could not be enforced by CFI.

In response to these concerns, Tom Ward acknowledged that labour costs on the first vessel were problematic due to the nature of the contracts, and contributed to higher costs, particularly in the area of alloy fabrication. He told the committee that most of the alloy fabrication was done by Vancouver Shipyards, and that actual production hours for that shipyard ended up varying from the budget by approximately 150,000 hours. Mr. Ward indicated that the delay in finalizing a contract with Vancouver Shipyards was partly due to the fact that the shipyard wanted CFI to pay for labour costs exceeding the labour productivity rate target, if caused by design changes. CFI was willing to pay for extra work caused by classification changes from the International Maritime Organization, but not for other re-work. He acknowledged that in order to get the ships delivered, CFI ended up contracting in May 1998 to pay the extra labour costs resulting from design change requests. In his estimation, these extra costs totalled

approximately $1.7 million. However, Mr. Ward submitted to the committee that similar contracts were used in early fast ferry projects in Australia.

Bob Lingwood, the current President and Chief Executive Officer of BC Ferries did acknowledge to the committee that it is clear that the normal discipline, rigour and reporting relationships that would be expected in a project as large as the fast ferry project, or even a much smaller project, were not in place. He assured the committee that he has since appointed new project management staff at the corporation, who have strong project management backgrounds.

He also advised that since the review was conducted, fixed price contracts with all major suppliers for construction of vessels have been concluded.

Opportunities for Re-Evaluation

Treasury Board Analysis

One of the key conclusions of the Auditor General's review was that opportunities for careful re-evaluation of the project were not taken. His report noted that when the project was considered by Treasury Board in 1994, it was approved in principle only, with an expectation that more specific information would be provided by BC Ferries at a later date. Committee members were advised that several opportunities for such re-evaluation by Treasury Board arose, but were not taken, as follows:

- In July 1995, when approval for a $230 million program budget was given;
- Between June 1996 and May 1997, during the government's review of all new capital expenditures. In particular, soon after construction of the first vessel began, the provincial government announced a freeze on all new capital expenditures by ministries and Crown corporations, pending review of their cost-effectiveness. The second and third fast ferries were examined as part of the capital freeze by a review team which included representation from Treasury Board staff, the Ministry of Employment and Investment, and each ministry or Crown corporation which had a capital project under review. The first vessel was not examined, as construction on it had already commenced. In May of 1997, the second and third fast ferries were released from the capital freeze. The Auditor General has stated that the vessels were released from the freeze even though the documented reasons given for their release did not address the criteria set by cabinet when it initiated the freeze;
- In August 1997, when Treasury Board approved a second revised budget of $262 million for the fast ferry program.

Responding to the Auditor General's conclusions, the Secretary to Treasury Board submitted to the committee that opportunities for re-evaluation were taken by Treasury Board. He noted that when funding was increased in 1997, Treasury Board staff requested that BC Ferries submit monthly financial reports on the project. However, Treasury Board staff had difficulty obtaining these reports on a timely basis. He also emphasized that traditionally in British Columbia, Crown corporations have operated with a degree of independence beyond that of line ministries. As such, Treasury Board does not delve deeply into the affairs of Crown corporations, but rather just advises what envelope of funds is available in a capital budget. A more detailed discussion of this issue can be found in section IV of this report, which deals with governance issues.

Some members of the committee were interested in how the second and third fast ferries were exempted from the capital freeze, and whether any analyses were done about the cost-effectiveness of the project before a decision was made. The Secretary to Treasury Board informed the committee that the capital expenditure review team was not instructed to limit its review of the fast ferry project in any way, and decided, based on the same information reviewed when the project was first approved, to exempt the second and third vessels for the following reasons:

- It was not thought practical to freeze funding for the second and third vessels when construction on the first vessel had already commenced, as one fast ferry operating alone on the route with other conventional, slower vessels would cause scheduling problems;
- Fast ferries were considered a cost-effective option for addressing traffic problems, according to the business plan done by Sandwell Engineering;
- If the fast ferries were not built, there would be an immediate need for other capital expenditures to replace and upgrade BC Ferries' aging fleet;
- It was expected that labour productivity would improve with construction of the second and third vessels, and contracts were to include decreasing labour hour targets, and reward/penalty terms;
- Incat of Australia had already successfully completed the hull design, and successful tank tests had taken place.

The Secretary to Treasury Board also submitted that, because many of the costs of the fast ferry project had already been committed prior to the 1996 capital freeze, there would have been fiscal consequences if the project had not proceeded.

The committee heard that as a result of recommendations arising from the Hugh Gordon report, changes have been made to the way Treasury Board reviews capital projects. Rather than examining whether a project is on time and on budget, as was done during the fast ferry project, Treasury Board has adopted a value-for-money analysis process when reviewing capital projects.

External audit

Although not specifically addressed in the Auditor General's report, questions were raised during the committee's deliberations regarding why external audits of BC Ferries' and CFI's financial statements had not raised a red flag about project costs, and been used as an opportunity to re-evaluate the project. Doane Raymond were the external auditors for the corporation and its subsidiary until 1997/98. At that time, the corporation entered into a 5-year contract for audit services with KPMG.

In response to these questions, representatives of BC Ferries noted that an audit conducted by Doane Raymond in 1996/97 did not indicate any concern about project costs, although the project had been underway only for a relatively short period of time at that point. However, the committee was advised that during the course of the 1996/97 audit, Doane Raymond did find some weaknesses in CFI's internal control and accounting procedures.

BC Ferries also provided the committee with correspondence from the corporation's current auditors, KPMG. That correspondence noted that in its audit work, KPMG was

not alerted to anything that would lead them to expect serious cost overruns. The committee did learn, however, that KPMG was not informed of its selection as auditor for the corporations until January 26, 1998. As a result, KPMG was under time constraints in auditing the 1997/98 statements for BC Ferries and CFI, and agreed that they would focus on determining if the financial statements were prepared in accordance with generally-accepted accounting principles, rather than examining corporate accounting systems used to track costs. However, KPMG advised that they did not feel the limited scope of the 1997/98 audit was problematic, in that BC Ferries' internal audit had recently completed a comprehensive review in November 1997. That review involved an examination of payment processing under the Memoranda of Understanding between CFI and shipyards, information systems, and the need to report detailed forecasted final project costs for the fast ferries. KPMG did indicate that during the 1997/98 audit, there were indications that the fast ferry budget was likely to be overspent, but CFI's forecasting ability was such that the quantum was not determinable. They advised that concerns about CFI's forecasting ability were made known to the CFI and BC Ferries audit committees, and were also communicated to Tom Ward.

IV - GOVERNANCE

The Office of the Auditor General recommends that the Province commit to putting the principles and practices of good governance in place for its Crown corporations - including, specifically, allowing Crown corporation boards to function effectively within their mandates.

In November 1996, the Auditor General released a study of Crown corporation governance (1996-97 Report 2, *Crown Corporation Governance*), which identified key principles of good governance. Governance is defined in the Auditor General's report as "the system of responsibilities and accountabilities set up to direct, monitor and report on the carrying out of corporate and government policy". That study recommended that the province consider implementing a comprehensive governance framework, addressing issues such as division of roles and responsibilities, performance measurement, and the need for board members to carry out duties free from interference. There are numerous other studies in Canada and elsewhere regarding good governance practices, including studies conducted by the Toronto Stock Exchange, the London Stock Exchange and the government of Canada.

The committee was advised by representatives of the Auditor General's office that governance problems were at the heart of the difficulties arising during the fast ferry project. In particular, the review concluded that lack of information was a key characteristic of governance failures during the fast ferry project, and throughout the project there were weaknesses in accountability reporting to the Legislative Assembly and the public. The Auditor General also found that BC Ferries and CFI boards of directors and management, as well as the CCS and Treasury Board, did not have clearly defined roles.

BC Ferries' and CFI's Joint Chief Executive Officer

The committee was advised that Tom Ward served as President of CFI from March 1996 to January 1999, and President and CEO of BC Ferries from October 1997 to mid-January 1999. The result of Mr. Ward's dual role was that there was no independent check on information being provided to the boards of BC Ferries and CFI. Furthermore, Mr. Ward was in a position of reporting to both boards on the adequacy of his own performance in managing the fast ferry project, and developing its budget and timetable. The Auditor General has stated that if this conflict had been resolved at an earlier date, the project's financial problems would have been detected sooner.

Representatives of the CCS agreed that having the same individual acting in both positions gave rise to a conflict, and contributed to difficulties accessing information.

The current President and Chief Executive Officer of BC Ferries advised the committee that CFI now has a President and General Manager, Gavin Cooper, who is not part of BC Ferries executive.

The Role of the Crown Corporations Secretariat

As discussed briefly in section II of this report, it was submitted to committee members that the involvement of the CCS in development of BC Ferries' 10-Year Capital Plan, and the submissions to cabinet and Treasury Board regarding that plan, were inappropriate. In fact, the Auditor General has stated that CCS was in a conflict position, because it was reviewing and advising on a plan that it had prepared itself, and

a project it was promoting. The committee also heard that CCS' involvement in developing BC Ferries' 10-year capital plan, and the nature of the minister's involvement in presenting it for approval, compromised the board's responsibilities, and obscured responsibility for managing the risks inherent in the project.

CCS representatives stated that, in their view, it is difficult to imagine what governance framework would have prevented the difficulties arising during the fast ferry project. Instead, they argued that lack of accurate information flowing to the BC Ferries and CFI boards and central agencies was the key issue.

They also submitted that it was appropriate for the minister to provide guidance to BC Ferries regarding the plan, and noted that in the past the Auditor General has stated that Crown corporation board members generally look to ministers as key players for establishing or conveying government direction to a Crown corporation. They emphasized that the framework for Crown corporation governance in British Columbia is such that boards do not operate in isolation from government direction on key strategic issues.

Frank Rhodes, former President and Chief Executive Officer of BC Ferries, acknowledged that governance problems may have existed, in that BC Ferries and its board should have had responsibility for defining the nature and type of services and vessels to be used to meet the corporation's needs, within a strategic and financial framework established by government. However, he submitted that the minister and CCS honestly believed the goals, budget and timeframe of the project were realistic, and that fast ferries were an acceptable option among a range of options.

Information provided to the CFI and BC Ferries Boards of Directors

The committee was informed that lack of sufficient governance procedures during the fast ferry project contributed to problems in information-sharing, and interfered with the ability of CFI and BC Ferries boards to carry out their role of scrutinizing the progress and costs of the program. In fact, one of the key findings of the review was that the boards of CFI and BC Ferries did not receive reliable, relevant and timely information which would have allowed them to detect the escalating costs and unrealistic timetables of the project, and were not aggressive enough in their pursuit of this information.

In particular, the Auditor General's report noted that:

- The CFI board did not get reliable information about the percentage of the budget expended, and the percentage of work completed;
- Cost forecasts were not included in information provided to the board;
- Costs were allocated in a way that, in the Auditor General's view, misinformed the board about the cost of the first fast ferry.

In particular, the committee heard evidence that:

- In 1997, corporation management had information indicating the costs of the first vessel as a percentage of the whole budget, and indicating that the costs of the total project would be over $300 million. However, this information was not provided to the board;
- When information was provided, it was sometimes incomplete and misleading. For example, information provided in March 1998 regarding the costs for the first vessel

were found by the review team to be understated. As well, information regarding forecasted costs to complete was excluded from reports to the board. Furthermore, from mid-1998 onward, CFI's president Chief Executive Officer directed staff preparing reports to allocate costs in a way that had the effect of misinforming the CFI board about costs of the first vessel. When more accurate information was drawn to the attention of board members in late December 1998/early January 1999, the Chief Executive Officer was asked to resign;

- Because the fast ferry project budgets approved by Treasury Board in 1995 and 1997 were global budgets for all three vessels and some ancillary costs, when the CFI board received financial information relating to the first vessel they should have multiplied costs by three to determine what was happening with the total budget;
- Board members were not sufficiently forceful in seeking out detailed and credible cost information that would have alerted them to the likelihood of cost overruns. The Auditor General did acknowledge that if management chooses not to provide accurate information, it may be very difficult for a board to ascertain that this is occurring.

The committee received evidence on this issue from Gavin Cooper, former Chief Financial Officer for CFI and, at the time of the committee's deliberations, President and General Manager of CFI. In response to questions from the committee, he advised that he participated in assembling the financial information that was presented to the boards, however it was Mr. Ward who decided how to present that information.

Mr. Cooper testified that prior to a July 1998 CFI board meeting, he was directed by the general manager, who had been instructed by Mr. Ward, to change the method of reporting costs on the first vessel to the board, from actual costs incurred to average costs incurred (averaged out across all three vessels). However, he did not disclose the change to the board members, because he was instructed by Mr. Ward not to provide any information beyond what was actually asked for.

Tom Ward also gave extensive evidence to the committee on this issue. The general focus of Mr. Ward's submission was that he did not provide inaccurate or misleading information to the boards, nor did he ignore requests by the board for more information. He stated that when he learned the extent of cost overruns for the first vessel in mid-1998, he made the CFI and BC Ferries board chairs aware of his concerns. At no time did he convey his concerns to the minister in writing or by telephone, although he had set up appointments that had to be cancelled due to more pressing matters. He also noted that the March 31,1998 and September 30, 1998 BC Ferries financial reports, showing cost overruns on the first vessel of $16 million and $27.7 million respectively, were prepared by the BC Ferries treasury group and to his knowledge would have been distributed quite widely.

Mr. Ward told committee members his investigation, which was completed toward the end of 1998, took longer than he had expected, as he had difficulty accessing exact cost figures, and did not want to pass information on to the boards until he had verified the information. He further stated there was no opportunity to communicate his findings to the CFI board in December 1998 because the chair was away. As such, not until the CFI board's January 15, 1999 meeting was Mr. Ward able to advise board members that the costs of the first fast ferry would be $113 million, the second vessel $96 million, and the third vessel $90 million (not including engineering, administrative and facility operational costs).

In response to Mr. Cooper's evidence, Mr. Ward did acknowledge that there was some averaging of the figures presented to the CFI board from June 1998 onward, and that the board was not advised of this change in reporting method because he expected that he would have some forecast final costs for them soon, at which time he planned to discuss the averaging method. However, the Auditor General has pointed out that the averaging of cost information reported to the board only related to expenditures to date, rather than forecast final costs, which the board had not been provided with as of mid-1998. Mr. Ward also submitted that the CFI board had discussed the concept of cost averaging at its March 1998 meeting, and Mr. Cooper had advised him averaging was an acceptable accounting practice.

Frank Rhodes, former President and Chief Executive Officer of BC Ferries, also indicated to the committee his disagreement that the board repeatedly requested information without success. He noted that all information requested by CFI board members was reflected in board minutes, carried forward, and there were genuine attempts to ensure that requests were addressed. His recollection was that budget information requested by the first CFI board was in the financial reports for all to see. He emphasized that there were no deliberate attempts to deny or frustrate the information-sharing process.

The current President and Chief Executive Officer of BC Ferries provided an update to the committee, noting that as of May 1999 the production committee of CFI's board was provided with monthly reports on the status of fast ferry construction work.

Information provided to Central Agencies

(Crown Corporations Secretariat and Treasury Board staff)

Treasury Board staff and the Crown Corporations Secretariat also were not alerted to problems with the fast ferry project at an early stage. The Auditor General's review determined that these agencies, like CFI's board, had difficulty obtaining reliable, relevant and timely information from CFI management. For example, although Treasury Board was concerned about the project's budget and schedule, and requested monthly project progress reports when it approved a revised budget of $262 million for the project in August 1997, those reports were not always received on a timely basis. Furthermore, CCS representatives advised the committee that they asked for monthly reports on construction progress and budget status following the commencement of construction in 1996, but only got reports during the period August 1997 to March 1998, through Treasury Board staff.

The committee was interested in what steps were taken by the Secretary to Treasury Board and his staff to seek out the requested reports. The Secretary to Treasury Board submitted that all reports received by Treasury Board staff indicated the fast ferry project was on time and on budget. He stated that when the CCS and Treasury Board did not receive monthly reports for February and March 1998 on time, BC Ferries was asked to submit a fuller report. In response to this request, two quarterly reports (the fourth quarter 1997/98 capital expenditure report, and the first quarter 1998/99 capital expenditure report) and a 1997/98 year-end fast ferry program cost summary were submitted in August 1998. None of these documents indicated the project would be overbudget. He advised that after August 1998, no further reports were submitted until weekly reports started coming in November 1998, also indicating the project was on time and on budget. However, because central agencies were involved at that time in

consideration of sale-leaseback and other financing options for the fast ferries, they did not aggressively pursue the information. It was also noted that at that time, Treasury Board staff were focusing upon the development of the consolidated capital plan and capital projects requests for the next fiscal year, and it was expected that BC Ferries would come before Treasury Board soon to present their capital budget.

Finally, the Secretary to Treasury Board advised the committee that, during this time, there were eighteen face-to-face meetings between himself, Treasury Board staff and senior BC Ferries officials, including ten meetings attended by the President and Chief Executive Officer of BC Ferries and CFI, Tom Ward. He emphasized to the committee that during those meetings, no information was provided to suggest the project was not on time or on budget. As such, he did not approach the minister responsible, the Chair to Treasury Board (Minister of Finance) or the Premier to express concerns. The Secretary to Treasury Board indicated to the committee his view that, in hindsight, Mr. Ward was not providing him with correct information during these meetings.

In response to the Secretary to Treasury Board's allegations, Mr. Ward submitted to the committee that his meetings with the Secretary to Treasury Board did not focus on the costs and schedule of the fast ferry project, but rather on alternative financing arrangements, sale of the vessels, and the future sale of CFI. Mr. Ward denied providing the Secretary to Treasury Board with misinformation about the fast ferry project's budget and schedule, and emphasized that if project status reports were not received by Treasury Board and CCS as alleged, he was not aware of it.

Representatives of the CCS strongly concurred with the Auditor General's conclusion that the government had difficulty monitoring the project due to a lack of access to timely and accurate information. They, too, emphasized that CCS representatives attended face-to-face meetings with Mr. Ward, and were advised that the project was on time and on budget. They further noted that on December 1, 1998, CCS received a briefing binder destined for the minister responsible for BC Ferries. Upon review of the binder, CCS representatives discovered information contradicting previous cost information provided by BC Ferries and CFI. The minister was alerted, and CCS undertook to conduct a more detailed investigation on his behalf. However, soon thereafter, on January 15, 1999 Mr. Ward provided information to the CFI board about the cost overruns, and then resigned.

The current President and Chief Executive Officer of BC Ferries told the committee that since the Auditor General's review, steps have been taken to address concerns about information-sharing. In particular, new reporting procedures have been developed regarding reporting by CFI staff to the CFI board, reporting by the CFI board to the BC Ferries board, and reporting by BC Ferries to government, through the CCS and Treasury Board. He further advised that BC Ferries' auditors, KPMG, have reviewed these changes and found them to be satisfactory.

Membership of CFI's Board of Directors

Membership on CFI's board of directors was another significant issue raised in the Auditor General's report. When the initial board was appointed by BC Ferries' president and Chief Executive Officer in mid-1996, its membership was composed of three executives from BC Ferries and CFI, the corporate secretary of CFI (and legal counsel to BC Ferries), and three independent directors drawn from the private sector. The three independent directors had extensive business and project management experience.

However, the CFI board was replaced in April 1997. The board was replaced with new members from the BC Ferries' board, and CFI's president,, who later that year also became President and Chief Executive Officer of BC Ferries.

One of the agreed-to witnesses that was to appear before the committee was Michael Goldberg, one of the independent directors on CFI's first board. However, due to approval of a motion ending the committee's consideration of the fast ferry project, Mr. Goldberg did not appear before the committee.

The Auditor General's report noted that the President and Chief Executive Officer of BC Ferries explained his rationale for the nature of the board appointments as follows:

- BC Ferries' board members were chosen to sit simultaneously on CFI's board so the parent board could fulfill its accountability obligations more directly;
- A report on governance problems in a BC Hydro subsidiary supported the change, and;
- The Auditor General's review of corporate governance supported the change.

However, committee members heard that, in the Auditor General's view, the membership for both the first and second CFI Ltd. boards demonstrated a misunderstanding of good governance practices. In particular, while representation from a parent board is necessary, corporate governance guidelines set out by the Toronto Stock Exchange have noted that a majority of board members should be independent of management and free from any relationship that could interfere with their ability to act in the best interests of the corporation. When assessed in relation to those guidelines, the second CFI board had no independence in its membership, as all members already had relationships with either CFI or BC Ferries. Finally, the Auditor General has stated that nothing in his 1996 study on Crown corporation governance, nor the review of BC Hydro's subsidiary, could be construed as supporting the change to CFI's board.

Frank Rhodes expressed to committee members his disagreement with the Auditor General's conclusions about the structure of CFI's boards, and the Auditor General's suggestion that the Toronto Stock Exchange guidelines should be followed. He argued that the membership of the board was changed in 1997 to reflect a BC Ferries board decision to assume direct responsibility for CFI operations, and enhance the subsidiary's accountability. He emphasized that this was done due to BC Ferries' concern about the financial sustainability of the corporation, and the affordability and direction of its capital programs, and was not driven by project budget issues, or by political instruction.

In this regard, the committee also received testimony from the current President and Chief Executive Officer of BC Ferries. He noted that, following replacement of the BC Ferries and CFI Ltd. boards in February 1999, new boards with ample experience in the areas of governance, project management, engineering and finance were appointed. As well, he advised that the new BC Ferries board retained a consultant to analyze governance issues in the BC Ferries board, and its relationship with CFI. Based on the consultant's recommendations, an additional BC Ferries board member was appointed to CFI's board.

CCS representatives also submitted that much work has been done to address the Auditor General's concerns about the role and composition of boards. In particular, work has been done to:

- Clarify roles and responsibilities in strategic planning between boards and cabinet;
- Involve boards in assessing skill sets and needs when filling board vacancies;
- Regularize meetings between ministers and boards to discuss cabinet direction and priorities;
- Consult with Crown corporations regarding processes for regular review of Crown mandates;
- Engage in discussions about subsidiaries;
- Develop standards of ethical conduct for Crown corporation boards;
- Provide board orientation. For example, 2 sessions were held in February and October 1999, which addressed roles, duties, information processes, committee structures, Chief Executive Officer evaluations, and the development of protocol agreements between Crown corporations, ministers' offices and other central agencies. More sessions were planned for 2000.

The Ferry Corporation Act, R.S.B.C. 1996, c. 137

The Office of the Auditor General recommends that the province give BC Ferries clear, integrated and long-term direction on its performance expectations and then hold BC Ferries' board and, through it, management responsible for meeting those expectations.

The Auditor General's review also concluded that the structure of BC Ferries' governing legislation, the Ferry Corporation Act, may have contributed to some of the difficulties in governance arising during the fast ferry project. His report noted that the legislation allows most key business decisions to be made outside of the corporation, by Cabinet or Treasury Board, takes away the board's control over important aspects of BC Ferries' business, and detracts from the advantages of a Crown corporation structure.

In his submission to the committee, Frank Rhodes encouraged the government to create a statutory framework for Crown corporations that clearly articulates strategic, public policy and financial objectives, and provides clear authority for boards and management staff to achieve those objectives. He submitted that such a framework must also define ministerial accountability and clarity for agencies like the CCS and Treasury Board.

V - OUTCOME AND IMPACTS OF THE PROJECT

The *Explorer*, the first fast ferry, commenced operation in June 1999. The second vessel, the *Discovery*, was operational in December 1999. Both of these vessels are owned by BC Ferries. The third vessel, the *Voyager*, was completed in August 2000. It is still owned by CFI, and has not been entered into service so that it may be sold as a new vessel. A technical review of the design and construction quality of the first vessel conducted by John J. McMullen Associates, and reported in the spring of 1999, indicated them to be of a good quality.

Representatives of the Auditor General's office testified that the fast ferries are unlikely to meet the major service expectations set when the project began, in terms of travel time, carrying capacity, and operating costs. The committee was further advised that the cost of the fast ferries will negatively affect the profitability of the Horseshoe Bay to Departure Bay route, the ability of BC Ferries to replace aging vessels in the future, and will further impair BC Ferries' financial health. It was also submitted that it is questionable whether the public policy goals set for the project are achievable. The Auditor General has called upon the government to adopt a financial framework that would allow the corporation to make long-term financial plans to fund operating losses and future capital expenditures.

The committee also discussed positive impacts the fast ferry project has had upon the province. Some concern was expressed from within the committee about the fact that the review did not examine the value of the new technology to British Columbia, such as tax revenues generated by it.

Tom Ward also noted his disappointment that the Auditor General did not consider cost recoveries in his analysis of fast ferry program costs. Mr. Ward stated that as a result of the fast ferry project, the British Columbia shipbuilding industry is in much better shape to face the future, as it now has the facilities and knowledge in place to allow BC Ferries to rely on it for future ferry repair and construction. He further emphasized to the committee his view that had the project been completed within the schedule initially set for it, British Columbia would have been far better placed to compete in world markets.

VI - RECENT DEVELOPMENTS

In March of 2000, the government announced the establishment of a new financial framework for BC Ferries. In particular, the central government has assumed $1.1 billion of the corporation's debt, and introduced a permanent annual subsidy for the corporation of 1.25 cents per litre from the motor fuel tax. It is expected that the subsidy will provide BC Ferries with approximately $72 million in revenue this year. As well, the corporation has introduced its new 5-year capital plan, which focuses on extending the life of its vessels and terminals.

The committee also learned that since the Auditor General's review was conducted, an independent formal study of major capital project management was commissioned by the government. The review was conducted by Deloitte Consulting, and its results were reported in April 2000, in a document entitled *Capital Management Process Review for the Government of B.C.* The review examined central agency capital project management models in other jurisdictions, and made several recommendations to the British Columbia government relating to:

- Capital management governance;
- Capital project justification, selection and approval;
- Capital project announcements;
- Capital project reporting process;
- Capital project implementation process;

While the focus of Deloitte Consulting's study was on social capital ministries and non-commercial Crown corporations, its report notes that the government may also wish to consider extending some of the recommendations to all capital projects financed or supported by the government.

As well, it was submitted by representatives of the CCS that since the fast ferry project the government has introduced more controls, checks and balances into major capital projects. For example, they noted that in the Skytrain extension project there is a financial and management controls document, and a protocol agreement between central agencies and project managers. The committee has not held hearings, nor did independent witnesses appear before the committee, to verify this information, or the degree of implementation.

VII - CONCLUSION

In March 2000, the government announced its decision to sell the three fast ferries, and the assets of CFI. In June 2000, Pricewaterhouse Coopers was contracted to facilitate the sale.

The committee's deliberations regarding risk management and governance of the fast ferry program revealed the contrasting opinions that exist regarding the source of the program's difficulties. While most witnesses acknowledged the shortcomings in project management, and the governance challenges, there were a wide variety of views regarding whether the decision to proceed with the project was a reasoned one, based on sufficient analysis of the technology and the risks associated with it.

However, there are lessons that can be taken away from the fast ferry project for consideration by the provincial government as it undertakes future large capital projects.

RECOMMENDATIONS:

The Committee endorses the recommendations contained in the Auditor General's 1999/2000 Report 5. *A Review of The Fast Ferry Project: Governance and Risk Management*, as follows:

- The Office of the Auditor General recommends that the Province require that proven project management practices be used on all significant capital projects.
- The Office of the Auditor General recommends that the Province commit to putting the principles and practices of good governance in place for its Crown corporations - including, specifically, allowing Crown corporation boards to function effectively within their mandates.
- The Office of the Auditor General recommends that the province give BC Ferries clear, integrated and long-term direction on its performance expectations and then hold BC Ferries' board and, through it, management responsible for meeting those expectations.

VIII - APPENDICES

APPENDIX I - WRITTEN SUBMISSIONS AND CORRESPONDENCE

Date: November 3, 1999
Author: Andrew G. Fry
Document: Letter to Rick Thorpe, MLA, re: Auditor General's Report

Date: November 4, 1999
Author: Office of the Auditor General
Text: Presentation to the Select Standing Committee on Public Accounts

Date: January 10, 2000
Author: Bob Lingwood
Document: Letter to Rick Thorpe, MLA, B.C. Ferry Corporation responding to questions raised at committee meeting of November 4, 1999

Date: January 18, 2000
Author: Sam Bawlf
Document: Binder entitled "The Real Story of B.C. Ferries and the Fast Ferry Project"

Date: January 19, 2000
Author: Tom Ward
Document: Letter to Craig James, Clerk of Committees, regarding further questions by committee

Date: January 21, 2000
Author: George Morfitt, Auditor General
Document: Letter to committee containing comments on evidence given January 12, 2000 by Lawrie McFarlane (Treasury Board), Nancy Carter (Crown Corporation Secretariat), Tom Ward and Frank Rhodes

Date: January 21, 2000
Author: Lawrie McFarlane, Secretary to Treasury Board
Document: Response to questions posed on behalf of Murray Coell, MLA, by letter dated January 13, 2000

Date: January 24, 2000
Author: Nancy Carter, Crown Corporation Secretariat
Document: Letter in response to question posed by Gary Farrell-Collins, MLA

Date: January 24, 2000
Author: Tom Ward
Document: Letter in response to questions posed by Murray Coell, MLA

Date: January 21, 2000
Author: Lawrie McFarlane, Secretary to Treasury Board
Document: Letter in response to questions posed by Murray Coell, MLA

Date: January 21, 2000
Author: Bob Lingwood, B.C. Ferry Corporation
Document: Letter in response to questions posed by Rick Thorpe, MLA

Date: January 24, 2000
Author: Tom Ward
Document: Letter responding to evidence given by Lawrie McFarlane, Secretary to Treasury Board at committee meeting of January 12, 2000

Date: January 24, 2000
Author: Tom Ward
Document: Letter responding to questions raised by Murray Coell, MLA

Date: January 25, 2000
Author: Lawrie McFarlane, Secretary to Treasury Board
Document: Letter to Craig James responding to request for further information made by Rick Thorpe, MLA

Date: February 1, 2000
Author: Lawrie McFarlane, Secretary to Treasury Board
Document: Letter to Craig James clarifying evidence given on January 12, 2000

Date: February 9, 2000
Author: Tony Penikett, ADM, Crown Corporations Secretariat
Document: Letter to Craig James responding to letter by George Morfitt dated January 21, 2000

Appendix II - Witnesses

George Morfitt, Auditor General Province of British Columbia	04-Nov-99 12-Jan-00 25-Jan-00
Ken Lane, Senior Project Leader Performance Audit Unit, Office of the Auditor General	04-Nov-99 12-Jan-00
Morris Sydor, Principal Performance Audit Unit, Office of the Auditor General	04-Nov-99 12-Jan-00
Owen Trist, Project Leader, Performance Audit Unit Office of the Auditor General	25-Jan-00
Bob Lingwood, President and Chief Executive Officer BC Ferry Corporation	04-Nov-99 12-Jan-00 25-Jan-00
Gavin Cooper, President and General Manager Catamaran Ferries International Ltd. (formerly Chief Financial Officer, CFI)	04-Nov-99
Frank Rhodes, former President and Chief Executive Officer BC Ferry Corporation (1990 - 1993, August 1994 - October 1997)	12-Jan-00
Tom Ward, former President and Chief Executive Officer Chief Executive Officer BC Ferry Corporation (October 1997 - January 1999) and former President, Catamaran Ferries International Ltd. (March 1996 - January 1999)	12-Jan-00
Lawrie McFarlane, Secretary to Treasury Board	12-Jan-00
Al Sakalauskas, Assistant Deputy Minister Treasury Board staff (Head of Capital Division, Ministry of Finance and Corporate Relations)	12-Jan-00
Nancy Carter, Director Crown Corporations Secretariat	12-Jan-00
Brad Brohman, Manager Crown Corporations Secretariat	12-Jan-00

Appendix III - Research Documents

- Nigel Gee and Associates, Ltd., Fast Ferries: Technical Notes, Victoria: B.C. Ferry Corporation, 1995.
- British Columbia Ferry Corporation, High Speed Passenger Ferries Feasibility Study, Victoria, B.C.: B.C. Ferry Corporation, 1990
- British Columbia Ferry Corporation, Mid-Island Transportation Strategy: Final Report, Victoria, B.C.: B.C. Ferry Corporation, 1993
- Gordon, Hugh, Review of the Fast Ferry Program, Victoria, B.C.: Crown Corporations Secretariat, 1999
- Geoplan Consultants, Canadian Ferry Costs and Industry Analysis, Ottawa: Royal Commission on National Passenger Transportation, 1991
- British Columbia Ferry Corporation, B.C. Ferries 10 Year Plan, Victoria: British Columbia Ferry Corporation, 1994
- John J. McMullen Associates Inc., *Technical Assessment of BC Ferry Corporation/ Catamaran Ferries International "Pacificat" Hulls No. 1, 2 & 3*, Victoria: Province of British Columbia, Crown Corporations Secretariat, 1999
- Deloitte Consulting, *Capital Management Process Review for the Government of British Columbia, Final Report*, Deloitte Consulting, 2000
- Transportation Development Centre, Transport Canada, *Fast Ferry Evaluation for Canadian Routes, Volume 1, Main Report*, Ottawa: Transport Canada, 1996